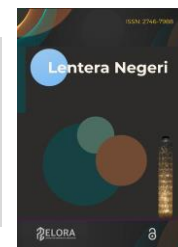




Contents lists available at [Elora Center](#)

Lentera Negeri

Journal homepage: <https://lentera.eloracenter.org/lentera>



Teacher ethics in wisdom-based educational innovation: a cross-cultural analysis

Endang Wuryandini^{*1}, Gildan Jaya Muhammad Ramadhan², Achmad Agung³

¹ Universitas PGRI Semarang, Indonesia

² STMIK IKMI Cirebon, Indonesia

³ UIN Siber Syekh Nurjati Cirebon, Indonesia

Article Info

Article history:

Received Feb 15th, 2026

Revised Apr 19th, 2026

Accepted Jul 10th, 2026

Keyword:

Educational innovation,
Local wisdom,
Teacher ethics,
Character education,
Integrative literature review

ABSTRACT

This integrative review examines how teacher ethics shapes the implementation of local wisdom-based educational innovation in Indonesian education. Local wisdom-based educational innovation is operationalized as the deliberate integration of locally rooted cultural knowledge, values, languages, social practices, and ecological understandings into curriculum, pedagogy, learning media, assessment, school culture, or school-community collaboration, subject to ethical principles of justice, care, inclusiveness, and respect for human dignity. Sources were identified and bibliographically verified through ERIC, DOAJ, Crossref-linked publisher records, journal platforms, and official Indonesian policy repositories using Boolean combinations of "local wisdom," "culture-based education," "ethnoscience," "educational innovation," "teacher ethics," "character education," and "culturally responsive teaching." Journal articles published mainly in 2020-2025 were prioritized, while foundational peer-reviewed studies were retained when theoretically necessary. The final corpus comprised 27 peer-reviewed journal articles and four official policy/legal documents. Data were organized in a source-level evidence matrix and analyzed thematically using a predefined codebook and a second-pass consistency check. Five themes emerged: pedagogical integration, teacher ethical agency, character and identity formation, digital adaptation, and ecosystem challenges. The synthesis shows that local wisdom is most educationally meaningful when teachers critically select cultural values, translate them into contextual learning, ensure inclusion and justice, and connect local identity with digital innovation. Teacher ethical reflection therefore functions as a governing mechanism that determines whether local wisdom becomes transformative pedagogy or merely ceremonial cultural representation.



© 2026 The Authors.

This is an open access article under the CC BY-NC-SA license
(<https://creativecommons.org/licenses/by-nc-sa/4.0>)

Corresponding Author:

Endang Wuryandini,

endangwuryandini@upgris.ac.id

Introduction

Contemporary education is shaped by a dual imperative: schools must respond to artificial intelligence, digital learning, and twenty-first-century competency demands while also protecting cultural identity, moral values, social ethics, and national character. This tension indicates that educational innovation cannot be reduced to the adoption of new technologies or teaching techniques. It also involves decisions about which values are preserved, whose knowledge is recognized, and how learning remains meaningful within students' sociocultural environments. Human-centered perspectives on Education 5.0 likewise emphasize that

technological advancement should remain connected to ethical responsibility, social well-being, and human development (Shahidi Hamedani et al., 2024).

In this review, local wisdom-based educational innovation is defined as the deliberate integration of locally rooted cultural knowledge, values, languages, social practices, ecological understandings, and community experiences into curriculum, pedagogy, learning media, assessment, school culture, or school-community collaboration. The construct is operationalized through three coding dimensions. The material-contextual dimension concerns local stories, language, arts, traditions, environmental knowledge, and social practices; the pedagogical dimension concerns contextual learning, ethnoscience, problem-based learning, projects, media, and assessment; and the ethical-cultural dimension concerns justice, care, responsibility, inclusion, cultural dignity, and critical selection of values. This operationalization prevents local wisdom from being treated as a decorative cultural label and makes it analyzable across different forms of educational innovation.

The national curriculum provides policy space for contextual and culture-responsive learning. Regulation of the Minister of Education, Culture, Research, and Technology Number 12 of 2024 and its amendment through Regulation of the Minister of Primary and Secondary Education Number 13 of 2025 allow curricula to be adapted to learners' needs and educational-unit contexts (Ministry of Education, Culture, Research, and Technology, 2024; Ministry of Primary and Secondary Education, 2025). This flexibility provides a legitimate basis for teachers to connect national learning goals with local contexts without reducing curriculum standards.

Empirical and review studies demonstrate that local cultural resources can contribute to learning, character, and digital adaptation. Hidayati et al. (2020) report that local wisdom-based character education supports responsibility and social care; Sumarni and Kadarwati (2020) show that Ethno-STEM project-based learning can strengthen critical and creative thinking; Dewi et al. (2021) demonstrate the value of ethnoscience-based contextual collaborative learning for scientific literacy; and Asmayawati et al. (2024) find that a local-wisdom approach can mediate the relationship between pedagogical innovation, curricular adaptation, and digital literacy. Yusuf (2023) further synthesizes evidence that local wisdom-based learning media contribute to student character development.

The research gap is therefore not the absence of studies on local wisdom, but the fragmentation of the evidence. Existing studies frequently emphasize learning media, student outcomes, ethnoscience, character education, or curriculum adaptation, while bibliometric evidence shows a rapidly expanding but dispersed field (Arjaya et al., 2024). Less attention has been given to the ethical judgment teachers must exercise when selecting, interpreting, and transforming local values into contemporary learning. This gap is especially important because culture-based innovation can promote identity and relevance, yet it can also become symbolic, exclusionary, or uncritical if teachers do not evaluate local practices through principles of justice, care, equality, and respect for human dignity.

Teacher ethics provides the theoretical lens for addressing this gap. Campbell (2008) positions teaching as a moral profession in which everyday pedagogical decisions have ethical consequences. Noddings (2012) emphasizes care as a foundation of humane educational relationships, while Shulman (1987) highlights the professional responsibility to transform subject knowledge into appropriate pedagogy. From a multicultural perspective, Banks (2008) argues that education should recognize students' cultural identities and languages within conditions of equality, and Paris (2012) extends this position by emphasizing the active sustaining of cultural and linguistic pluralism. Taken together, these perspectives support four ethical dimensions used in this review: exemplarity, justice and inclusion, care, and professional responsibility.

Based on this framework, the study aims to synthesize how teacher ethics governs local wisdom-based educational innovation. The review addresses four questions: (1) How is local wisdom operationalized in educational innovation? (2) Which ethical dimensions shape teachers' selection and implementation of local values? (3) What recurring challenges and enabling conditions influence implementation? and (4) What integrative model can connect local values, pedagogy, ethical reflection, digital adaptation, and ecosystem collaboration?

Method

This study employed a qualitative integrative literature review. An integrative review was selected because the research questions require synthesis across empirical studies, conceptual scholarship, teacher-ethics

literature, and policy documents rather than statistical estimation of a single effect. The review followed the logic of integrative synthesis described by Snyder (2019) and Whitemore and Knafl (2005): problem identification, structured literature searching, source evaluation, data extraction, thematic comparison, and integrative interpretation.

The unit of analysis was a scholarly or official document containing evidence relevant to at least one of three linked domains: local wisdom or culture-based education, educational innovation or contextual pedagogy, and teacher ethics or professional responsibility. For coding purposes, local wisdom-based educational innovation was operationalized through the material-contextual, pedagogical, and ethical-cultural dimensions defined in the Introduction. This operational definition functioned as the review's analytical framework rather than as a psychometric measurement instrument because the study analyzes documents, not individual participants.

Sources were identified and bibliographically verified through ERIC, DOAJ, Crossref-linked publisher records, journal platforms, and official Indonesian government repositories. Search vocabulary included "local wisdom" OR "culture-based education" OR "ethnoscience"; "educational innovation" OR curriculum OR learning; "teacher ethics" OR "ethical teaching" OR "teacher role"; "character education"; and "culturally responsive teaching" OR "culturally sustaining pedagogy." These terms were used singly and in Boolean combinations to capture literature at the intersection of culture, pedagogy, ethics, and innovation. The search prioritized journal publications from January 2020 to December 2025, while earlier peer-reviewed studies were retained only when they provided foundational theoretical or methodological concepts.

The inclusion criteria were: (a) a peer-reviewed journal article addressing at least one core domain and contributing directly to the review questions; (b) clear bibliographic identity, publication year, journal source, and traceable DOI or publisher record where available; (c) empirical, review, or theoretically substantive evidence relevant to Indonesian education or comparable culture-responsive educational contexts; and (d) sufficient methodological or conceptual detail to support interpretation. Exclusion criteria were non-peer-reviewed preprints, textbooks used as substitute evidence, popular articles, duplicate records, sources with unclear authorship or publication information, and studies that discussed culture without a pedagogical connection. Official laws, curriculum regulations, and the teacher code of ethics were retained as contextual primary documents but were analyzed separately from the scholarly evidence corpus.

After applying these criteria and completing bibliographic quality checks, the final corpus comprised 27 peer-reviewed journal articles and four official policy/legal documents. The 27 journal articles formed the scholarly evidence base for thematic synthesis, while the four official documents were used only to interpret normative expectations concerning curriculum and teacher professionalism. Because this study was designed as an integrative review rather than an exhaustive PRISMA systematic review, it does not claim a complete census of all publications in the field. Reproducibility is instead supported by the explicit search vocabulary, eligibility rules, complete reference list, quality criteria, and source-level evidence matrix presented in Tables 1 and 2.

Each scholarly source was extracted into a data matrix containing author and year, study focus or design, context, key findings, relevance to the research questions, and provisional analytical codes. Thematic analysis was then conducted by adapting Braun and Clarke's (2006) phases: familiarization with the extracted evidence, initial coding, searching for candidate themes, reviewing themes against the source matrix, defining and naming themes, and constructing the analytical narrative. A second coding pass was conducted after the preliminary themes had been developed to check whether the same evidence was consistently assigned to the same higher-order categories. Cross-source comparison and synthesis followed the integrative logic of Whitemore and Knafl (2005).

Rigor was strengthened through a documented codebook, a source-level audit trail, second-pass coding consistency, source triangulation across empirical studies, reviews, and official documents, negative-case checking, and citation-reference matching. The review did not employ independent parallel coding; therefore, an inter-rater coefficient such as Cohen's kappa was not applicable and is not claimed. Source quality was appraised using five criteria: peer-reviewed publication status for scholarly evidence, bibliographic completeness, methodological or conceptual clarity, direct relevance to the research questions, and traceability of the reported evidence. This procedure also ensures that non-peer-reviewed preprints and textbooks are not used as scholarly evidence in the final corpus.

Table 1. Review Protocol, Inclusion, and Exclusion Criteria

Aspect	Inclusion / Review Protocol	Exclusion / Decision Rule
Theme / conceptual relevance	Addresses local wisdom/culture-based education, educational innovation/contextual pedagogy, character education, teacher ethics, or curriculum policy	Culture discussed without an educational or pedagogical connection
Publication type	Peer-reviewed journal articles; official laws, regulations, and professional-code documents used as contextual primary sources	Preprints, textbooks used as evidence, personal blogs, popular opinion, news, or unverifiable sources
Year range	Priority: January 2020-December 2025; earlier peer-reviewed sources retained only for foundational theory/method	Older sources without a clear foundational contribution
Search / verification sources	ERIC, DOAJ, Crossref-linked publisher records, journal platforms, and official Indonesian government repositories	Records without verifiable bibliographic or publisher information
Search vocabulary	"local wisdom" OR "culture-based education" OR ethnoscience; educational innovation OR curriculum OR learning; teacher ethics OR ethical teaching OR teacher role; character education; culturally responsive/sustaining pedagogy	Sources outside the culture-pedagogy-ethics intersection
Contextual relevance	Indonesian education or comparable culture-responsive educational settings	Context unrelated to education or teacher practice
Quality appraisal	Peer-review status, bibliographic completeness, methodological/conceptual clarity, relevance, and evidence traceability	Fails core quality criteria or provides claims that cannot be traced to a scholarly/official source
Final analytical corpus	27 peer-reviewed journal articles plus 4 official policy/legal documents; policy documents used only for normative context	Policy/legal documents excluded from the scholarly evidence-quality ratio

Table 2. Source-Level Evidence Matrix of Representative Core Studies

Source	Evidence / Study Focus	Contribution to the Synthesis
Hidayati et al. (2020)	Local wisdom-based character education in Indonesian higher education	Supports responsibility, social care, and culturally grounded character formation
Sumarni & Kadarwati (2020)	Ethno-STEM project-based learning	Shows that local cultural contexts can be integrated with critical and creative thinking goals
Dewi et al. (2021)	Contextual collaborative learning based on ethnoscience	Supports the relationship between local knowledge and scientific literacy
Asrial et al. (2022)	Local-wisdom-based learning modules	Provides evidence linking culturally grounded materials with peace-loving character
Bulkani et al. (2022)	Local-wisdom-based animation learning media	Shows that local content can be translated into digital learning media and improve learning outcomes

Source	Evidence / Study Focus	Contribution to the Synthesis
Lubis et al. (2022)	Problem-based learning with local wisdom and socio-scientific issues	Connects local issues with conceptual knowledge and environmental literacy
Yusuf (2023)	Meta-analysis of local wisdom-based learning media	Synthesizes evidence on the contribution of local media to student character
Asmayawati et al. (2024)	Quantitative study of pedagogical innovation, curriculum adaptation, local wisdom, and digital literacy	Shows that local wisdom can mediate the contribution of pedagogical and curricular innovation to digital literacy
Arjaya et al. (2024)	Bibliometric mapping of local wisdom integration in education	Demonstrates growth and dispersion of the field and supports the need for integrative synthesis
Damopolii et al. (2024)	Problem-based student book integrating local wisdom	Supports integration of local content with conservation attitudes and problem-based pedagogy
Yusuf et al. (2024)	Qualitative case study of school-family-community collaboration	Shows that local wisdom-based character education depends on ecosystem collaboration
Patras et al. (2025)	Culturally responsive teaching, local wisdom, and gamification	Illustrates digital adaptation of local values for multicultural competence

Table 3. Thematic Coding Output and Supporting Evidence

Main Theme	Analytical Codes	Representative Supporting Sources
Pedagogical integration	Curriculum integration, ethnoscience, contextual learning, problem-based learning, local media, projects	Hidayati et al. (2020); Sumarni & Kadarwati (2020); Dewi et al. (2021); Bulkani et al. (2022); Lubis et al. (2022); Damopolii et al. (2024)
Teacher ethical agency	Exemplarity, justice, inclusion, care, professional judgment, cultural selection	Shulman (1987); Banks (2008); Campbell (2008); Noddings (2012); Paris (2012)
Character and identity formation	Responsibility, social care, peace, tolerance, cultural identity, pluralism	Ladson-Billings (1995); Hidayati et al. (2020); Asrial et al. (2022); Yusuf (2023)
Digital adaptation	Digital literacy, human-centered technology, gamification, digital learning media	Bulkani et al. (2022); Asmayawati et al. (2024); Shahidi Hamedani et al. (2024); Patras et al. (2025)
Ecosystem challenges and enablers	Teacher competence, teaching materials, collaboration, cultural formalism, cultural bias	Arjaya et al. (2024); Yusuf et al. (2024); Sadri & Temaja (2025)

Results and Discussions

The results reported in this section are source-level analytical outputs from the integrative review rather than original interview or survey data. Table 2 makes the evidentiary basis explicit by linking representative studies to the synthesis, while Table 3 shows how source-level codes were consolidated into five higher-order themes. Across the corpus, these themes converged around pedagogical integration, teacher ethical agency, character and identity formation, digital adaptation, and ecosystem challenges. The discussion below interprets these patterns in relation to the review questions and does not present conceptual assertions as if they were newly collected field data.

Local Wisdom as a Foundation of Educational Innovation

Across the reviewed evidence, local wisdom is consistently positioned as more than a collection of cultural symbols. It functions as a source of pedagogical content, social values, ecological knowledge, identity, and

community experience that can connect academic learning with students' lived contexts. The evidence matrix shows this function across character education, ethnoscience, problem-based learning, learning media, and curriculum adaptation (Hidayati et al., 2020; Sumarni & Kadarwati, 2020; Dewi et al., 2021; Lubis et al., 2022). This convergence supports the interpretation of local wisdom as an educational resource whose value depends on how it is translated into learning processes.

The need for this translation becomes more important as education becomes increasingly digital. Shahidi Hamedani et al. (2024) describe Education 5.0 as a human-centered educational response to technological transformation, emphasizing digital competence together with ethical and social responsibility. In the Indonesian context, Asmayawati et al. (2024) show that a local-wisdom approach can strengthen the relationship between pedagogical innovation, curricular adaptation, and digital literacy. These findings suggest that technological modernization and cultural grounding need not be competing agendas; local values can provide an ethical and contextual anchor for digital innovation.

Local wisdom also provides a bridge between modernization and cultural identity. Arjaya et al. (2024) document the growing international research interest in local wisdom integration, while Paris (2012) argues that culturally sustaining pedagogy should actively maintain cultural and linguistic pluralism rather than merely acknowledge difference. In Indonesian classrooms, values such as mutual cooperation can support collaborative learning, deliberation can support democratic participation, environmental care can support ecological education, and courtesy can support communication ethics. The educational significance of these values lies not in their cultural label alone, but in their capacity to structure meaningful and inclusive learning experiences.

The synthesis therefore identifies three interrelated layers of local wisdom-based educational innovation. The material-contextual layer concerns the inclusion of local stories, traditions, arts, languages, games, ecological knowledge, and community practices. The pedagogical layer concerns how these resources are transformed through contextual learning, ethnoscience, problem-based learning, projects, media, and assessment. The ethical-cultural layer concerns the principles used to judge whether local values promote justice, care, dignity, responsibility, and inclusion. The third layer is critical because not every inherited practice is automatically educationally or ethically defensible; teachers must interpret culture rather than reproduce it uncritically.

Forms of Implementation of Local Wisdom-Based Educational Innovation

The implementation of local wisdom-based educational innovation can be carried out through integration into learning tools. Teachers can insert local values into learning objectives, learning objective flows, teaching modules, learning materials, assessments, and student projects. In the Indonesian language subject, students can analyze regional folktales as narrative texts. In science, students can study local community practices in environmental preservation. In social studies, students can examine systems of mutual cooperation, traditions of deliberation, or local social institutions.

The second form is contextual learning. Dewi et al. (2021) show that ethnoscience-based learning can improve students' scientific literacy because learning materials are connected to local knowledge. Sumarni and Kadarwati (2020) also explain that the Ethno-STEM approach can improve critical and creative thinking skills. These findings show that local wisdom is not opposed to the strengthening of modern competencies, but can become a bridge for developing twenty-first-century skills.

The third form is problem-based learning based on local issues. Lubis et al. (2022) show that problem-based learning linked to local wisdom and socio-scientific issues can improve conceptual knowledge and environmental literacy. This model is relevant because many local problems can be used as learning resources, such as waste, flooding, environmental degradation, shifts in social values, and the use of technology. In this way, students not only learn theory but also learn to read real problems in their environment.

The fourth form is the development of learning media based on local culture. Bulkani et al. (2022) show that animation media based on local wisdom can improve elementary school students' learning outcomes. Damopolii et al. (2024) also show that problem-based textbooks containing local wisdom can strengthen conservation attitudes. This means that local wisdom can be packaged in digital forms, animation, electronic modules, learning videos, and gamification so that it remains relevant for the digital generation.

The fifth form is school culture. School culture is a real space for embedding local values in daily habits. Values such as mutual cooperation, discipline, courtesy, mutual respect, and environmental care will be stronger when they become school practices, not merely learning materials. Yusuf et al. (2024) emphasize

that local wisdom-based character education requires collaboration among teachers, parents, and the community.

Table 4. Forms of Implementation of Local Wisdom-Based Educational Innovation

Implementation Form	Example of Activity	Local Value	Educational Impact
Curriculum integration	Teaching modules contain folktales, local traditions, or community social practices	Cultural identity and appreciation of tradition	Learning becomes more contextual
Contextual learning	Connecting material with environmental problems in the surrounding area	Environmental care and social responsibility	Students understand knowledge in real contexts
Problem-based learning	Solving problems of waste, flooding, social conflict, or digital culture	Deliberation, mutual cooperation, critical thinking	Improves problem-solving ability
Local learning media	Videos, animations, e-modules, and local culture infographics	Creativity and cultural appreciation	Material becomes more engaging and easier to understand
Character projects	Cultural documentation, local festivals, and social action	Collaboration and care	Students' character becomes more developed
School culture	Greetings, courtesy, community service, and class deliberation	Social ethics, discipline, empathy	Local values become daily habits
Community collaboration	Inviting local figures, cultural practitioners, and parents	Connection between school and community	Education is not separated from social life

Teacher Ethical Reflection in the Implementation of Local Wisdom

The relationship between local wisdom-based educational innovation and teacher ethics is the core of this study's discussion. Teachers are not merely curriculum implementers; they are moral actors who determine how local values are selected, interpreted, taught, and brought to life in the classroom. Campbell (2008) states that teaching is a moral profession because every teacher decision has ethical consequences for students. Teachers' decisions in selecting material, giving examples, assessing, correcting, guiding, and building classroom relationships always contain moral values.

In the Indonesian context, teacher ethics have both regulatory and moral foundations. Law Number 14 of 2005 affirms that teachers are professional educators whose duties are to educate, teach, guide, direct, train, assess, and evaluate students (Republic of Indonesia, 2005). Meanwhile, the Indonesian Teacher Code of Ethics positions teachers as individuals who must maintain professional dignity, guide students, build good relationships with parents and the community, and develop professionalism (Indonesian Teachers Association, 2013). Therefore, the implementation of local wisdom is not merely teaching creativity; it is part of teachers' ethical responsibility.

Teacher ethical reflection can be analyzed through four dimensions. First is exemplarity: teachers who teach values such as mutual cooperation, responsibility, or respect must demonstrate those values in their own professional behavior. Second is justice and inclusion. Teachers need to ensure that the use of local wisdom does not privilege one cultural group, silence minority identities, or transform cultural difference into hierarchy. Banks (2008) emphasizes that education in diverse societies should recognize students' cultural identities and languages while promoting structural equality. This principle requires local wisdom-based learning to remain dialogical, multicultural, and open to difference.

Third is the dimension of care. Noddings (2012) explains that caring relationships are an important foundation in education. Ethical teachers do not only pursue curriculum achievement but also understand students' conditions. Fourth is the dimension of professional responsibility. Shulman (1987) explains the importance of pedagogical content knowledge, namely the ability of teachers to connect mastery of content with appropriate teaching strategies. In the context of local wisdom, teachers need pedagogical-cultural competence: it is not enough to know local culture; they must be able to transform it into learning experiences that are scholarly, critical, and aligned with educational goals.

Ethical reflection also requires teachers to critically select local values. Not all local practices can immediately be used as educational values. Teachers need to select values that support humanity, justice, equality, environmental care, and respect for human dignity. Local practices that are discriminatory, gender-biased, or contrary to children's rights cannot be maintained solely because they are considered traditions. Therefore, teachers must be able to distinguish between cultural preservation and the reproduction of practices that are inconsistent with modern educational values.

Local Wisdom, Character Education, and Student Identity

Local wisdom plays an important role in shaping student character because local values are close to their social lives. Character education is not sufficient when taught only through moral definitions; it must be instilled through experience, habits, and social relationships. Hidayati et al. (2020) show that local wisdom-based character education can strengthen the values of responsibility and social care. Asrial et al. (2022) also show that local wisdom-based modules can influence the peace-loving character of elementary school students.

Local wisdom also contributes to student identity when cultural experiences are treated as legitimate educational resources rather than peripheral additions. Paris (2012) argues that culturally sustaining pedagogy should support the continuing vitality of students' cultural and linguistic practices, while Ladson-Billings (1995) emphasizes that culturally relevant pedagogy can support academic success together with cultural competence. From this perspective, local wisdom-based education can strengthen cultural self-confidence without requiring cultural isolation.

The strengthening of identity through local wisdom also needs to be directed toward openness. Students are not only invited to love their own culture, but also to respect other cultures. This is important because Indonesian society is multicultural. Local wisdom-based education must avoid ethnocentric attitudes and instead strengthen intercultural dialogue. In this context, teachers act as facilitators who introduce local values as sources of wisdom, not as tools for comparing or demeaning other cultures.

Challenges in Implementing Local Wisdom-Based Educational Innovation

The implementation of local wisdom-based educational innovation faces several serious challenges. The first challenge is teacher competence. Not all teachers have the ability to identify local values, connect them with learning achievements, and develop them into learning strategies. Sadri and Temaja (2025) show that limited teacher competence and a lack of teaching materials are obstacles to local wisdom-based education. This indicates that teacher training is highly necessary.

The second challenge is the limitation of teaching materials. Many schools do not yet have modules, media, or learning resources based on local wisdom that are systematically arranged. As a result, teachers often use cultural examples spontaneously without strong planning. In fact, local-based teaching materials need to be developed by considering cultural accuracy, curriculum suitability, students' developmental levels, and learning objectives.

The third challenge is the dominance of global digital culture. Students increasingly encounter social media, games, short-form video, and artificial intelligence as everyday cultural environments. If local wisdom is delivered only through static or ceremonial forms, it can be perceived as disconnected from contemporary learning. Digital adaptation is therefore necessary, but it should remain human-centered and ethically guided. Patras et al. (2025) show that combining culturally responsive teaching, local wisdom, and gamification can develop multicultural competence, while Asmayawati et al. (2024) demonstrate that local wisdom can operate productively within digital-literacy and curricular-innovation frameworks.

The fourth challenge is the risk of cultural ceremony. Many schools present local wisdom only through traditional clothing, art performances, or certain commemorative days. Such activities are important, but they are not sufficient. Local wisdom must enter students' thinking processes, ways of solving problems, ways of interacting, ways of making decisions, and ways of building social responsibility. If it remains only symbolic, local wisdom will not shape character deeply.

The fifth challenge is the weakness of collaboration among schools, families, and communities. Local wisdom lives within society. Yusuf et al. (2024) emphasize that the integration of local wisdom in character education requires a collaborative model involving teachers, parents, and the community. Schools need to open spaces for the community to become a learning resource. Local figures, artists, craftspeople, farmers, parents, and cultural communities can be involved as part of the learning ecosystem.

Table 5. Implementation Challenges and Solution Strategies

Challenge	Impact on Learning	Solution Strategy
Uneven teacher competence	Teachers have difficulty integrating local values into learning	Training in local wisdom-based learning design
Limited teaching materials	Local learning becomes spontaneous and unsystematic	Development of modules, e-modules, videos, and local media
Dominance of global digital culture	Students perceive local culture as less attractive	Gamification, short educational videos, and digital culture projects
Cultural ceremony	Local wisdom becomes only symbolic	Integration of local values into discussions, projects, assessments, and school culture
Weak community collaboration	Schools are separated from sources of local values	Involving community figures, parents, cultural communities, and local government
Risk of cultural bias	Certain cultures are perceived as superior to others	Multicultural, dialogical, and inclusive approaches

Conceptual Model for Implementing Local Wisdom-Based Educational Innovation

Based on the analysis, this study offers a conceptual model for implementing local wisdom-based educational innovation consisting of five stages. The first stage is the identification of local values. Schools and teachers need to map relevant local values, such as mutual cooperation, deliberation, responsibility, environmental care, hard work, courtesy, religiosity, and tolerance.

The second stage is pedagogical integration. The local values that have been mapped need to be translated into learning objectives, materials, methods, media, projects, and assessments. At this stage, teachers need to ensure that local values are not merely decorative elements of learning, but truly become part of the learning process. The third stage is teacher ethical reflection. Teachers need to assess whether the learning they design is fair, inclusive, meaningful, and respectful of students' dignity.

The fourth stage is ecosystem collaboration. The implementation of local wisdom requires cooperation among schools, families, communities, cultural groups, and local governments. The fifth stage is digital adaptation. Local values need to be developed through media and technology that match the needs of today's students. Teachers can use videos, podcasts, digital comics, e-modules, infographics, digital cultural maps, or documentation projects based on educational social media.

This model shows that local wisdom-based educational innovation is not merely the inclusion of culture in lessons, but the development of an ethical, contextual, and transformative learning ecosystem. Teachers become connectors between local values and global needs, between tradition and technology, and between academic learning and character formation.

Table 6. Conceptual Model of Implementation

Stage	Main Activity	Teacher Role	Expected Result
Identification of local values	Mapping the cultural and social values of the community	Small-scale researcher, cultural observer, facilitator	Relevant local values are identified
Pedagogical integration	Inserting local values into teaching modules and classroom activities	Learning designer	Learning becomes contextual
Ethical reflection	Assessing justice, inclusiveness, and moral meaning in learning	Moral exemplar and ethical decision-maker	Learning is not merely technical
Ecosystem collaboration	Involving families, communities, and local cultural groups	Connector between school and community	Local values live within real experience

Stage	Main Activity	Teacher Role	Expected Result
Digital adaptation	Packaging local wisdom in digital media	Innovator and media curator	Local wisdom becomes relevant to the digital generation

Synthesis of the Discussion

Overall, the synthesis identifies five connected contributions. First, local wisdom makes learning more contextual and can be translated into ethnoscience, projects, problem-based learning, media, and curriculum adaptation (Dewi et al., 2021; Lubis et al., 2022; Fuad et al., 2022). Second, culturally grounded learning can support responsibility, peace, social care, and identity (Hidayati et al., 2020; Asrial et al., 2022; Yusuf, 2023). Third, digital forms can make local knowledge more accessible when technological innovation remains human-centered (Bulkani et al., 2022; Asmayawati et al., 2024; Shahidi Hamedani et al., 2024). Fourth, the broader science of learning emphasizes that meaningful learning is strengthened when educational practice attends to learners' developmental, relational, and contextual conditions (Darling-Hammond et al., 2020). Fifth, implementation depends on teachers' ethical judgment and collaboration with families and communities (Campbell, 2008; Yusuf et al., 2024). Evidence from online culture-based character education and prospective-teacher perceptions further indicates that local cultural resources can remain relevant across digital and teacher-education settings (Muhammad et al., 2021; Pamenang, 2021).

Local wisdom-based educational innovation therefore cannot be understood only as a creative learning strategy. It is an ethical practice that connects education with cultural roots, social responsibility, and character formation while requiring teachers to mediate between local values and global knowledge. In a digitally transforming education system, teachers need to preserve cultural identity without becoming culturally closed, and they need to use technology without allowing technical efficiency to displace care, justice, inclusion, and human dignity.

These findings strengthen the idea that Indonesian education needs to move forward without being uprooted from social and cultural values. Innovation that prioritizes only digital tools risks becoming technical and shallow. Conversely, innovation rooted in local wisdom can produce learning that is more humane, meaningful, and responsible. Therefore, teacher ethical reflection needs to become a core part of every educational innovation agenda.

Conclusions

This integrative review of 27 peer-reviewed journal articles and four official policy/legal documents concludes that local wisdom-based educational innovation is most coherent when local cultural resources are integrated through curriculum, contextual learning, ethnoscience, problem-based learning, learning media, character projects, school culture, and community collaboration. The source-level synthesis shows that these practices are not separate techniques; they are connected by the need to make learning contextually meaningful while supporting character, cultural identity, and contemporary competencies. The central theoretical contribution of the review is that teacher ethical reflection functions as a governing mechanism for local wisdom-based innovation. Teachers do not merely transmit cultural content; they decide which values are educationally relevant, how those values are interpreted, whether learning remains fair and inclusive, how care is expressed, and how cultural resources are connected to digital and pedagogical innovation. Without such ethical mediation, local wisdom risks becoming ceremonial or exclusionary. With ethical mediation, it can support humanistic, contextual, pluralistic, and transformative learning. The study has four limitations. First, it is an integrative review rather than an exhaustive PRISMA systematic review and therefore does not claim complete coverage of all publications. Second, the analysis relies on published evidence and does not include direct observations, interviews, or student-level outcomes collected by the authors. Third, no independent parallel coding was used, so inter-rater statistics were not applicable. Fourth, most included evidence concerns Indonesian or closely related culture-responsive settings, which limits broad cross-cultural generalization. Future case studies should purposively examine approximately 5-8 schools that implement at least three forms of local wisdom-based practice and triangulate classroom observations, teacher interviews, student artifacts, and community perspectives. Mixed-method studies can test relationships among teacher ethical reflection, implementation quality, student engagement, and character outcomes, while design-based research can evaluate digital local-wisdom learning prototypes across iterative classroom cycles. These designs would provide empirical tests of the conceptual model developed in this review.

References

- Arjaya, I. B. A., Suastra, I. W., Redhana, I. W., & Sudiatmika, A. A. I. A. R. (2024). Global trends in local wisdom integration in education: A comprehensive bibliometric mapping analysis from 2020 to 2024. *International Journal of Learning, Teaching and Educational Research*, 23(7), 120-140. <https://doi.org/10.26803/ijlter.23.7.7>
- Asmayawati, Yufiarti, & Yetti, E. (2024). Pedagogical innovation and curricular adaptation in enhancing digital literacy: A local wisdom approach for sustainable development in Indonesia context. *Journal of Open Innovation: Technology, Market, and Complexity*, 10(1), 100233. <https://doi.org/10.1016/j.joitmc.2024.100233>
- Asrial, Syahrial, Kurniawan, D. A., Alirmansyah, Sholeh, M., & Zulkhi, M. D. (2022). The influence of application of local-wisdom-based modules toward peace-loving characters of elementary school students. *Indonesian Journal on Learning and Advanced Education*, 4(2), 157-170. <https://doi.org/10.23917/ijolae.v4i2.17068>
- Banks, J. A. (2008). Diversity, group identity, and citizenship education in a global age. *Educational Researcher*, 37(3), 129-139. <https://doi.org/10.3102/0013189X08317501>
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77-101. <https://doi.org/10.1191/1478088706qp063oa>
- Bulkani, Fatchurahman, M., Adella, H., & Setiawan, M. A. (2022). Development of animation learning media based on local wisdom to improve student learning outcomes in elementary schools. *International Journal of Instruction*, 15(1), 55-72. <https://doi.org/10.29333/iji.2022.1514a>
- Campbell, E. (2008). The ethics of teaching as a moral profession. *Curriculum Inquiry*, 38(4), 357-385. <https://doi.org/10.1111/j.1467-873X.2008.00414.x>
- Damopolii, I., Nunaki, J. H., Jeni, Rampheri, M. B., & Ambusaidi, A. (2024). An integration of local wisdom into a problem-based student book to empower students' conservation attitudes. *Participatory Educational Research*, 11(1), 158-177. <https://doi.org/10.17275/per.24.10.11.1>
- Darling-Hammond, L., Flook, L., Cook-Harvey, C., Barron, B., & Osher, D. (2020). Implications for educational practice of the science of learning and development. *Applied Developmental Science*, 24(2), 97-140. <https://doi.org/10.1080/10888691.2018.1537791>
- Dewi, C. A., Erna, M., Martini, Haris, I., & Kundera, I. N. (2021). Effect of contextual collaborative learning based ethnoscience to increase students' scientific literacy ability. *Journal of Turkish Science Education*, 18(3), 525-541. <https://doi.org/10.36681/tused.2021.88>
- Fuad, D. R. S. M., Musa, K., & Hashim, Z. (2022). Innovation culture in education: A systematic review of the literature. *Management in Education*, 36(3), 135-149. <https://doi.org/10.1177/0892020620959760>
- Hidayati, N. A., Waluyo, H. J., Winarni, R., & Suyitno. (2020). Exploring the implementation of local wisdom-based character education among Indonesian higher education students. *International Journal of Instruction*, 13(2), 179-198. <https://doi.org/10.29333/iji.2020.13213a>
- Indonesian Teachers Association. (2013). Indonesian Teacher Code of Ethics. Indonesian Teachers Association.
- Ladson-Billings, G. (1995). Toward a theory of culturally relevant pedagogy. *American Educational Research Journal*, 32(3), 465-491. <https://doi.org/10.3102/00028312032003465>
- Lubis, S. P. W., Suryadarma, I. G. P., Paidi, & Yanto, B. E. (2022). The effectiveness of problem-based learning with local wisdom oriented to socio-scientific issues. *International Journal of Instruction*, 15(2), 455-472. <https://doi.org/10.29333/iji.2022.15225a>
- Ministry of Education, Culture, Research, and Technology. (2024). Regulation of the Minister of Education, Culture, Research, and Technology Number 12 of 2024 concerning the Curriculum for Early Childhood Education, Basic Education, and Secondary Education. Ministry of Education, Culture, Research, and Technology.
- Ministry of Primary and Secondary Education. (2025). Regulation of the Minister of Primary and Secondary Education Number 13 of 2025 concerning the Amendment to Regulation of the Minister of Education, Culture, Research, and Technology Number 12 of 2024 concerning the Curriculum for

- Early Childhood Education, Basic Education, and Secondary Education. Ministry of Primary and Secondary Education.
- Muhammad, A. R., Suhaimi, Zulfikar, T., Sulaiman, & Masrizal. (2021). Integration of character education based on local culture through online learning in Madras Ahaliyah. *Cypriot Journal of Educational Sciences*, 16(6), 3293-3304. <https://doi.org/10.18844/cjes.v16i6.6559>
- Noddings, N. (2012). The caring relation in teaching. *Oxford Review of Education*, 38(6), 771-781. <https://doi.org/10.1080/03054985.2012.745047>
- Pamenang, F. D. N. (2021). Local wisdom in learning as an effort to increase cultural knowledge: Students' perception as prospective teachers. *IJIET: International Journal of Indonesian Education and Teaching*, 5(1), 93-101. <https://doi.org/10.24071/ijiet.v5i1.3050>
- Paris, D. (2012). Culturally sustaining pedagogy: A needed change in stance, terminology, and practice. *Educational Researcher*, 41(3), 93-97. <https://doi.org/10.3102/0013189X12441244>
- Patras, Y. E., Japar, M., Rahmawati, Y., & Hidayat, R. (2025). Integration of culturally responsive teaching approach, local wisdom, and gamification in Pancasila education to develop students' multicultural competence. *Educational Process: International Journal*, 14, e2025045. <https://doi.org/10.22521/edupij.2025.14.45>
- Republic of Indonesia. (2005). Law of the Republic of Indonesia Number 14 of 2005 concerning Teachers and Lecturers. State Secretariat of the Republic of Indonesia.
- Sadri, N. W., & Temaja, I. G. B. W. B. (2025). Local wisdom-based education in Indonesian school. *The Eastasouth Journal of Learning and Educations*, 3(3), 226-236. <https://doi.org/10.58812/esle.v3i03.762>
- Shahidi Hamedani, S., Aslam, S., Mundher Oraibi, B. A., Wah, Y. B., & Shahidi Hamedani, S. (2024). Transitioning towards tomorrow's workforce: Education 5.0 in the landscape of Society 5.0: A systematic literature review. *Education Sciences*, 14(10), 1041. <https://doi.org/10.3390/educsci14101041>
- Shulman, L. S. (1987). Knowledge and teaching: Foundations of the new reform. *Harvard Educational Review*, 57(1), 1-22. <https://doi.org/10.17763/haer.57.1.j463w79r56455411>
- Snyder, H. (2019). Literature review as a research methodology: An overview and guidelines. *Journal of Business Research*, 104, 333-339. <https://doi.org/10.1016/j.jbusres.2019.07.039>
- Sumarni, W., & Kadarwati, S. (2020). Ethno-STEM project-based learning: Its impact on critical and creative thinking skills. *Jurnal Pendidikan IPA Indonesia*, 9(1), 11-21. <https://doi.org/10.15294/jpii.v9i1.21754>
- Whittemore, R., & Knafl, K. (2005). The integrative review: Updated methodology. *Journal of Advanced Nursing*, 52(5), 546-553. <https://doi.org/10.1111/j.1365-2648.2005.03621.x>
- Yusuf, F. A. (2023). Meta-analysis: The influence of local wisdom-based learning media on the character of students in Indonesia. *International Journal of Educational Methodology*, 9(1), 237-248. <https://doi.org/10.12973/ijem.9.1.237>
- Yusuf, R., Arifin, A. M., Octaviana, U., Abbas, S., Syawal, J., & Nurbaya, N. (2024). Integrating local wisdom in character education: A collaborative model for teachers, parents, and communities. *AL-ISHLAH: Jurnal Pendidikan*, 16(3), 4226-4238. <https://doi.org/10.35445/alishlah.v16i3.5271>